WHAT IS CLAIMED IS:

1. A crystalline superfine particle characterized in having a grain size in the range from 5 nm to 100 nm and emitting light depending upon the time-rate-of-change of a stress applied thereto.

2. The crystalline superfine particle according to claim 1 wherein the surface thereof is covered by organic molecules.

3. The crystalline superfine particle according to claim 2 wherein the organic molecules are surfactant having hydrophilic groups and hydrophobic groups.

4. The crystalline superfine particle according to claim 1 wherein the crystalline superfine particle has a composition expressed by the general formula

$A_xB_yO_z$

where $0.8 \le x \le 1.1$

$1.8 \le y \le 2.2$

$\{(2x+3y)/2\}-0.2 < z < \{2x+3y)/2\}+0.2$

$A=Sr_kBa_lCa_mMg_n$

$(0 \le k,\ l,\ m,\ n \le 1,\ k+l+m+n=1)$

$B=Al_{1-p}D_p$ $(0 \le p < 1)$

$D=Y_qGa_rIn_t$ $(0 \le q,\ r,\ t \le 1,\ q+r+t=1)$

5. The crystalline superfine particle according to claim 4 wherein a rare earth element or a transition metal element is added by 0.2 mol or less in total relative to 1 mol of $A_xB_yO_z$.

6. The crystalline superfine particle according to claim 5 wherein at least Eu is added as the rare earth element or the transition metal element.

7. A complex material composed of crystalline superfine particles having a grain size in the range from 5 nm to 100 nm and another material, and emitting light depending upon the time-rate-of-change of a stress applied thereto.

8. The complex material according to claim 7 wherein the other material is a transparent material.

9. The complex material according to claim 7 wherein the other material is a resin.

10. The complex material according to claim 9 wherein the resin is a photo-curing resin.

11. The complex material according to claim 7 wherein the other material is glass.

12. The complex material according to claim 7 wherein the other material is a liquid.

13. The complex material according to claim 7 wherein the crystalline superfine particles discretely disperse in the other material.

14. The complex material according to claim 7 wherein, even when the crystalline superfine particles dispersed in the other material form aggregates, maximum size of each aggregate is 100 nm.

15. The complex material according to claim 7, which emits light when manually touched or bent.

16. A method of manufacturing a crystalline superfine particle which emits light depending upon the time-rate-of-change of a stress applied thereto, comprising:

forming a substance in which metal ions of a metal for forming the crystalline superfine particle dissolves in water contained in a molecular aggregate which orient hydrophilic groups of surfactant molecules inward and hydrophobic groups thereof outward in a nonpolar solvent.

17. The method according to claim 16 wherein the crystalline superfine particles has a grain size in the range from 5 nm to 100 nm.

18. The method according to claim 16 wherein concentration of the metal ions relative to the water contained in the molecular aggregate is 10 mol/l or less.

19. The method according to claim 16 wherein the crystalline superfine particle has a composition expressed by the general formula $A_xB_yO_z$

where $0.8 \le x \le 1.1$

$1.8 \le y \le 2.2$

$\{(2x+3y)/2\}-0.2<z<\{2x+3y)/2\}+0.2$

$A=Sr_kBa_lCa_mMg_n$

$(0 \le k,\ l,\ m,\ n \le 1,\ k+l+m+n=1)$

$B=Al_{1-p}D_p$ $(0 \le p<1)$

$D=Y_qGa_rIn_t$ $(0 \le q,\ r,\ t \le 1,\ q+r+t=1)$,

wherein the metal ions in the water contained in the molecular aggregate are ions of alkaline earth metal used as the component A and ions of a metal used as the component B in the general formula, and

wherein the ratio of the ions of the alkaline earth metal as the component A relative to the ions of the metal as the component B is in the range from 0.1 to 0.5.

20. The method according to claim 19 wherein the water contained in the molecular aggregate contains 0.2 mol or less in total of a rare earth element or a transition metal element relative to 1 mol of ions of the alkaline earth metal as the component A in the general formula.

21. The method according to claim 20 wherein at least Eu is contained as the rare earth element or the transition metal element.

22. A method of manufacturing a crystalline superfine particle which emits light depending upon the time-rate-of-change of a stress applied thereto, comprising:

forming a substance in which metal ions of a metal for forming a precursor superfine particle of the crystalline superfine particle dissolves in water contained in a molecular aggregate which orient hydrophilic groups of surfactant molecules inward and hydrophobic groups thereof outward in a nonpolar

solvent.

23. The method according to claim 22 wherein the crystalline superfine particles has a grain size in the range from 5 nm to 100 nm.

24. A method of manufacturing a crystalline superfine particle which emits light depending upon the time-rate-of-change of a stress applied thereto, comprising:

forming a substance in which the crystalline superfine particle is contained in water which is contained in a molecular aggregate orienting hydrophilic groups of surfactant molecules inward and hydrophobic groups thereof outward in a nonpolar solvent.

25. The method according to claim 24 wherein the crystalline superfine particles has a grain size in the range from 5 nm to 100 nm.

26. An inverted micelle to be used for manufacturing a crystalline superfine particle which emits light depending upon the time-rate-of-change of a stress applied thereto, characterized in containing metal ions of a metal for forming the crystalline superfine particle in water contained in a molecular aggregate which orients hydrophilic groups of surfactant molecules inward and hydrophobic groups thereof outward in a nonpolar solvent.

27. An inverted micelle enveloping a precursor

superfine particle, which is used to manufacture a crystalline superfine particle which emits light depending upon the time-rate-of-change of a stress applied thereto, characterized in containing a precursor superfine particle in water contained in a molecular aggregate which orients hydrophilic groups of surfactant molecules inward and hydrophobic groups thereof outward in a nonpolar solvent.

28. An inverted micelle enveloping a crystalline superfine particle, which is used for manufacturing a crystalline superfine particle which emits light depending upon the time-rate-of-change of a stress applied thereto, characterized in containing the crystalline superfine particle in water contained in a molecular aggregate which orients hydrophilic groups of surfactant molecules inward and hydrophobic groups thereof outward in a nonpolar solvent.

29. A precursor superfine particle to be used for manufacturing a crystalline superfine particle which emits light depending upon the time-rate-of-change of a stress applied thereto, characterized in changing to the crystalline superfine particle when crystallized.

30. A complex material comprising:

inverted micelles to be used for manufacturing crystalline fine particles which emit light depending upon the time-rate-of-change of a stress applied

thereto, in which molecular aggregates each orienting hydrophilic groups of surfactant molecules inward and hydrophobic groups thereof outward in a nonpolar solvent, and each contain water in which metal ions of a metal for forming the crystalline superfine particles are dissolved; and

another material complexed with the inverted micelles.

31. A complex material comprising:

inverted micelles enveloping precursor superfine particles to be used for manufacturing crystalline fine particles which emit light depending upon the time-rate-of-change of a stress applied thereto, in which molecular aggregates each orienting hydrophilic groups of surfactant molecules inward and hydrophobic groups thereof outward in a nonpolar solvent, and each contain water in which the precursor superfine particle is enveloped; and

another material complexed with the inverted micelles.

32. A complex material comprising:

inverted micelles enveloping crystalline superfine particles to be used for manufacturing crystalline fine particles which emit light depending upon the time-rate-of-change of a stress applied thereto, in which molecular aggregates each orienting hydrophilic groups of surfactant molecules inward and

hydrophobic groups thereof outward in a nonpolar solvent, and each contain water in which the crystalline superfine particle is enveloped; and

another material complexed with the inverted micelles.

33. A complex material comprising:

precursor superfine particles used to manufacture crystalline superfine particles which emit light depending upon the time-rate-of-change of a stress applied thereto, and changeable to the crystalline superfine particles when crystallized; and

another material complexed with the inverted micelles.